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## INDUSTRIAL EDUCATION IN THE METROPOLIS

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Gossip has it that a well-known authority on trade instruction was brought to New York City not long ago and was asked to prepare a report on the industrial schools of the Board of Education, and that he prepared an essay devoted to general principles and the comparative experience of the country on this subject. When asked (this is still gossip) why he had not reported on the industrial schools of New York City, he replied that there were not enough to be worth considering.

We might supplement this remark with a paragraph from the current report of the Superintendent of Evening Trade Schools of New York City: "Even in New York City we have not at this time any real method of knowing exactly what is being done in industrial education; one who is seeking to learn a particular trade would scarcely know where to go."

Yet New York is the leading manufacturing center of America and the leading commercial center of the world. It is the central dynamo and the great marketplace of a civilization which knows that it is built on an economic foundation. New York is spending \$35,000,000 a year on its public schools. How much of this sum, the interest on \$700,000,000, is being effectively devoted to the needs of this age, and how much to the needs of an earlier age in whose tradition the school still lives?

One might venture to add, that every city in America needs to ask the same question. American education is still preponderantly scholastic, made of a sort of telescoping series of influences reaching from the medieval scholastic down through the English school

for gentlemen and culminating in the sporadic specialized trade school enthusiasms of our own country for sixty years past. Integration there has never been, and one can still trace the several metaphysical theories, the several theories of the nature of life and of social organization, laid beside one another in our school system like geological evidences in some upheaved stratum of the ancient earth. Things are injected into our school systems; things are tacked on to the outside of our school systems in a way to cause perpetual disturbance; but as for a true internal evolution in accord with the principles of life and society, it scarcely takes place more than it would in a tangle of geological strata.

Perhaps of all the impressions gained from New York City which may be of value to the other cities of America, this is the most important, because it applies in varying degree to all of them.

Now for the facts and their interpretation, both of which will be brief. When I undertook to prepare this paper the latest annual report of the New York Trade Schools had not been published. This report is so adequate descriptively, and as a departmental report so interpretative, that I shall not restate it here. The report ought to go into the hands of every person interested in trade education or in public school problems. It reveals not only facts but tendencies. It is not like so many reports, a defense of existing work or an appeal for new funds. Its author appears to have been more interested in the defects and blind-alley problems of his department than in the meritorious features. Among his statistical results is a condemnation of the system of compulsory evening school for boys between 14 and 16 years of age who have taken out working papers. His tables show that the best attendance is the voluntary. The compulsory attendance is the poorest, the most wasteful, the most repugnant to the people, if facts can be taken at their face value. Trade subjects lead all others in the steadiness with which they hold their pupils through the school year. Coöperation is emphasized as the foremost principle to establish in trade school work, and the report implies, though it does not enunciate, the important principle that our factories must be trans-

formed into educational institutions rather than our public schools into factory auxiliaries. The correlative of this principle is basic to our consideration of industrial education, and it is that industrial education cannot be had through any kind of vocational or trade specialization in our public schools. The New York Trade Schools Report equally shows that the trade instruction given in the New York public schools is a virtually negligible part of the city's total industrial training. A great quantity of industrial education is imported annually by immigrants. The apprenticeship system, or its analogy, seems to persist in ways not specified and scarcely known, and most of the technical facility that is gained by producers in New York City is gained somewhere else than in any kind of educational institution. What Tolstoi called "the unconscious education" appears to be still, in New York City, the important and indispensable form of industrial education.

I purposely refrain from going into too much detail about Dr. Shields' report, in the hope that my hearers will send to New York for a copy of this report, and will read it word by word.

To generalize from the New York situation, we may state certain propositions which will be more or less evident without argument:

(1) Vocational training has not been introduced in New York, and as applying to the elementary and even the high school, it is to be hoped that it never will be introduced. It presupposes the absurdity of thinking to discover foreordained vocations for young people. It presupposes a classification of the population along hereditary lines according to trade. When Columbus, Ga., established a vocational school in the cotton-mill district of the South, among youths who were in fact predestined in some measure to mill occupations, this was a superficially successful experiment. When the same idea was transferred to Rochester, a composite industrial city, it failed just as signally, although the school, from all internal observation, was efficient and convincing. Less than 20 per cent. of the students whose subsequent careers have been traced, have, it is stated, adhered to the vocations in which they had been specialized at school.

(2) In this connection it might be pointed out that though much is said in America just now about German industrial training, and about the continuation schools of Germany, it is forgotten by many people that the German continuation school system is only a few years old, whereas the German industrial supremacy became manifest fully 25 years ago. Even in Germany, a nation of hereditary classes, it was not continuation schools and not vocation schools that made German education industrially efficient. German education is industrially efficient because it is educationally efficient; because it has been worked out on the civic idea, with its industrial bearings, and has definitely broken from the old scholastic tradition so that it deals with the child as a social being with a mental history to be learned through genetic psychology. The scholastic ideal treats the child as an isolated individual with so-called faculties which need to be drilled in order that they may become strong; scholastic education tries to force on the adolescent child the social habits which will be appropriate only after he becomes an adult in a competitive community; scholastic education aims straight at the so-called intellectual faculties, allowing the athletic, recreational and emotional interests to enter only if they contribute to immediate intellectual betterment. This scholastic education dominates in America at this day. Germany has broken from the tradition as completely as it has broken with some other kinds of feudalism, while we, who have forever put an end to political feudalism and who are now making war on economic feudalism, are still bowing to the feudal tradition in education.

(3) While the important industrial education must always be simply fundamental education, an establishment of the relation between work and life—and while New York City faces this problem as its true problem of industrial training—it is still true that trade education, viewed as a public convenience and a directive agent in the development of industrial communities, has a future. Until a year ago the trade schools of the New York Board of Education, with perhaps one exception, were simply a product of the demand or training on the part of those who sought work and who desired to enter popular trades. In other words, these schools were serving as feeders to



trades already in large part over-supplied. They were not serving a purpose of vocational guidance nor were they strengthening the community, as viewed from the standpoint of technical efficiency, at the points where the community was weak. There was no guiding philosophy in the development of trade schools.

For a year past the intelligence back of the New York Trade Schools has worked on what are termed, in Dr. Shiels' report, two fundamentally valid considerations:

"(1) Whenever there is a demand for any kind of skilled labor, that will lift the worker from the ranks of the less skilled or unskilled, and that will restore the equilibrium between the insufficient supply of labor that is well paid and the overcrowded supply of labor that is underpaid, such a demand should be met by opportunity for instruction.

"(2) Trades which are overcrowded and underpaid should not be introduced into a scheme of trade instruction."

The application of these principles requires a knowledge of local trade conditions and a still wider knowledge of industrial tendencies in broad sections of the country. Our customs tariff has been long used as a means of fostering, in various parts of the country, industrial activities which are essentially noneconomic inasmuch as they can be carried on in such places only under the condition that a government bounty be bestowed on them. The tariff has operated also to prevent the industrial equilibration of the United States with other countries. This does not involve a condemnation of the use of taxation for other than revenue purposes; but when the insidious power of taxation is in the hands of unscientific or selfishly interested people, it can do more to enslave a country in artificial bonds than perhaps any other agency.

Our development of the trade school in the United States has partaken of this same error, and in rectifying this error and making our trade education truly contributive to new economic industries and a higher wage, it is necessary for us to know the industrial facts locally and territorially and to recognize the possibility of the existence in any one community of fun-

damentally uneconomic industries, or at least of industries over-supplied with workers. This principle, relatively new even in the field of thought, can scarcely be applied in practice because the data do not exist, but it is at least implied in New York City in the trade school report from which I am quoting. It means, very briefly, that trade education is to be used as a directive power so that it will react not merely to the advantage of existing manufacturing interests, but more largely to the advantage of the employee and of the community as such. The schoolman who builds and administers a curriculum according to this principle must be an economist as well as a pedagogue.

(4) If New York City is to build up a system of trade and continuation teaching in any degree commensurate with the industrial hugeness of New York, it will have to proceed along other lines than those of the technicological school or cloistered institution. There must be established living connections between the school and the factory. Processes must not be given to the student to illuminate book knowledge, but book knowledge must be given him to make understandable the actual trade processes which must be made the basis of his instruction. The school must be in some measure moved out into the factory. New York has done nothing quantitatively along this line to compare with experiments abroad, or even in some other American cities, but New York has adopted the policy, and the expansions of her trade schools have been planned along coöperative lines.

The reasons why trade education must become again a form of modified apprenticeship achieved through a coöperation between school and factory, are two. First, any other method will be crushingly expensive to the taxpayers. The city cannot duplicate the mercantile and industrial plants, valued at hundreds of millions of dollars, which alone can provide the framework for comprehensive trade instruction. Second, the idea of educating people in a school in order that they may become efficient workers is in itself pedagogically archaic. Even in those fields of education which lie outside of industry we cannot educate for life, save by living, and in modern spe-

cialized industries it is obvious that we cannot educate for work except by working.

In conclusion, I might answer the vague wonder which some may be feeling, that I should have undertaken to talk about industrial education in New York at all and then have discussed exclusively the hope for industrial education in New York. It would be possible to make a fairly impressive list of individual trade-teaching institutions inside and outside of the New York Board of Education, but this would be a vicious and misleading thing to do. It ought to be instructive—it ought to bring a shock of surprise and a challenge to thought—to realize that America is in the international arena, where nothing except industrial supremacy can make for victory, and that the greatest industrial center of America has an educational system built on antique scholastic lines with nothing more than a few shingles and streamers of industrial training tacked on to the outside of this system!



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